

REMARKS

Claims 1-9, 19-20 and 23-45 are pending in the present Application. Of these, claim 9 has been withdrawn. Claims 23-45 have been canceled, claims 1 and 9, have been amended, and claims 46-48 have been added by this Amendment and Response, leaving claims 1-8, 19-20 and 46-48 for consideration upon entry of the present Amendment.

The Specification has been amended to correct certain typographical errors, as explained in detail below.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Specification Amendments

The specification has been amended to rectify a typographical error. The alternative example employs a terpolymer as a coupling agent. Terpolymer coupling agents are also described in [0017]. Unfortunately the typographical error refers to a silane which is clearly incorrect. This error has been addressed by replacing “silane” with “terpolymer”.

Claim Amendments

Claim 1 has been amended to simplify the language. Applicant believes that the amendment does not change the scope of the claim.

Claim 9 has been amended to make it commensurate with claim 1 in anticipation of the allowance of claim 1 and rejoinder of claim 9.

Claim 46 has been added to specifically claim the fact that the elastomeric coating material has a melt index of 20-40 g/10 min and Shore A hardness of 40-90. While not explicitly stated in the application, Applicant believes that claim 46 is fully supported by the specification as a whole. The specification, in [0013], discloses that the coating material may comprise other ingredients such as a wax. Paragraph [0013] also teaches that the amount of the thermoplastic polymer and the amount of the coating material are commensurate, thus describing to one of ordinary skill that any components present in the coating material in addition to the thermoplastic polymer would be present in very small amounts and would not have a significant effect on the melt index or Shore A of the material. Further, it is known in

the polymer arts that materials such as wax are typically used in very small amounts as release agents to reduce binding and clumping. Additionally, the examples show that the thermoplastic material alone is used as the coating material thus resulting in a coating material having the claimed melt index and Shore A.

Claims 47 and 48 mirror claims 1 and 7 with the exception that claims 47 and 48 use the transitional phrase “consisting essentially of”. Applicants assert that the melt index and Shore A are key features of the claims and the term “consisting essentially of” would exclude the use of cross linking agents and additional polymers that would result in a coating material having a melt index and Shore A outside of the claimed range.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-7, 19-20, 23, 24, 26-29, 31, 33-35 and 37-43 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over United States Patent No. 5,041,320 to Meredith in view of United States Publication No. 2001/0011784 to Valligny, et al. (Valligny). Applicants respectfully traverse this rejection.

Meredith describes coated grains for use with a sports surface. The grains are coated with a polymeric material (col. 2, lines 48-49). At col. 3, lines 10-12, Meredith teaches that the polymeric coating is preferably composed mainly of an elastomer or mixture of elastomers. Meredith also teaches at col. 3, lines 17-18 that the coating may incorporate a polyolefin when good resilience is not required. Meredith goes on to describe suitable elastomers which include natural rubber, styrene butadiene rubber and nitrile rubber (col. 3, lines 19-23). Meredith makes clear, in describing the method of making the grains, that the elastomer used in the coating is cross linked (col. 3, lines 58-64). As is well understood in the art, cross linked compositions are described as thermosets and not thermoplastics. Meredith's teachings, when taken together, teach that elastomeric materials such as natural rubber, styrene butadiene rubber and nitrile rubber can be used to form an elastomeric cross linked coating on the grains. Meredith also teaches that a polyolefin can be used when resiliency is not required but gives no guidance on the selection of a polyolefin material. Thus, a skilled artisan, upon reading Meredith, would choose a rubber elastomer to make a resilient coating and would form the coating in such a way as to make a cross linked elastomeric coating.

Applicants also note that Meredith discloses a non-latex method of making the coated grains beginning at col. 5, line 24. The description of the non-latex method is quite conceptual and general. Meredith describes the broad concept of using a molten polymeric material or a polymeric material dissolved in a non-aqueous solvent. Meredith gives no details as to the issues associated with either of these alternative approaches, in particular for the molten method. Meredith does not appear to consider or suggest what properties of the polymeric material might be essential to successfully coating the grains. Thus Meredith does not teach or suggest a thermoplastic material having the claimed melt index. Furthermore, Meredith is silent with regard to the required hardness of the coating on the grains and thus gives no direction to a skilled artisan to choose a material having the claimed Shore A. There is no predictable correlation between melt index (a measure of the molten flow characteristics) and Shore A (an indicator of the hardness of a non-molten material).

Valligny has been cited for the disclosure of a material having a melt flow index of between 15 and 300 g per 10 minutes (see [0068]). The combination of Meredith and Valligny presents some problems – even under the “common sense” standard put forth by KSR. “A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). To find obviousness, the Examiner must “identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* Here, finding the reason to combine these two particular references is difficult. The Examiner appears to allege that since Meredith teaches the potential use of a polyolefin that a skilled artisan would seek out a thermoplastic polymer having the claimed melt index and the Shore A is inherently a feature of the same thermoplastic. As mentioned above Meredith does not describe the parameters necessary for the selection of a material used in a molten coating process. Furthermore, the hardness of a material does not necessarily relate to the molten flow characteristics of a thermoplastic. The fact that Valligny happens to disclose the same material (ENGAGE 8400) in the Examples as is used in the Examples of the pending application does not provide a sufficient teaching for a skilled artisan to choose a material having the claimed melt index and Shore A and insert it into the teachings of Meredith.

Valligny uses ENGAGE 8400 a in combination with a grafting agent. Grafting agents are known to increase the molecular weight of a material which in turn alters other physical properties, most notably the melt index.

It is unclear why a skilled artisan would look to Valligny, a reference focused on making a coating in a hot mold, to find a material for forming a coating on an object. The physical parameters required for forming a coating in a hot mold are quite different from those required for forming a coating on an object as the processes are different.

Furthermore, the Examiner has chosen a single material from a two (optionally three_) component composition described by Valligny – apparently seeking the material based on guidance given in the pending claims because Meredith provides no guidance for selecting any material other than natural rubber, styrene butadiene rubber and nitrile rubber. Meredith mentions a molten polymer method but provides no indication as to what parameters are to be used to form the coating on the hot grains or any guidance as to the softness or hardness of the final coating.

Further, Valligny's composition requires at least two components, which are combined and molded to form a grafted composition. There is no indication in Valligny that a single component, such as component "a", could be used alone successfully. As claim 1 does not require additional components it is clear from the claims that the thermoplastic polymer is all that is required to form the coated grains. Additionally, both Meredith and Valligny indicate that a cross linked or grafted composition is necessary for a flexible and resilient coating. The pending application demonstrates that a single component thermoplastic coating is acceptable.

Claim 8 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Meredith in view of Valligny as applied to claims 1-7, and further in view of United States Patent No. 5,723,529 to Bernard, et al. (Bernard). Applicants respectfully traverse this rejection for the same reasons as presented above with regard to the combination of Meredith and Valligny. The incorporation of Bernard does not rectify the deficiencies of the combination of Meredith and Valligny.

Claims 25, 30, 32 and 36 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Meredith in view of Valligny and Bernard as applied to claim 8 and further in view of JP 09118829A to Yanagisawa. These claims have been cancelled.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By /Patricia S. DeSimone/
Patricia S. DeSimone
Registration No. 48,137

Date: June 10, 2009
CANTOR COLBURN LLP
20 Church Street
22nd Floor
Hartford, CT 06103
Telephone: (860) 286-2929
Facsimile: (860) 286-0115